

AMENDMENTS TO THE CLAIMS

Please cancel claims 23 and 31. Please add new claims 32 and 33. Please amend Claims 1, 8, 9, 11, 12, 13, 19, and 22 as follows. Claims 2-7, 10, 14-18, 20, 21, and 24-30 remain as previously pending.

1. (Currently Amended) A surgical clip for closing a wound in a hollow visceravessel having a lumen comprising:

at least one non-jaw component having a projection away from the clip and opposing jaws rotatably disposed about a hinge, each of said jaws comprising a frame, having an exterior frame distance, and a padded tissue-contacting surface, said clip being operable to move said jaws between an open and a closed position-said jaws with force parallelism relative to each other;

wherein, when the clip is in the closed position, all the projections of the non-jaw components from the clip, other than the jaws, are smaller than the open jaw external frame distance exterior frame distance when the jaws are in the open position;

a broad tissue clipping area lateral to the projection of the jaws and;

a force controlled spring operably engaging the jaws to bias the jaws shut, wherein the spring force of the spring is limited so that the force applied by the clip to the vessel to prevent closure of blood vessels within the wall of the hollow visceravessel while causing complete closure of the lumen within the hollow visceravessel being clipped.

2. (Original) The clip of claim 1 wherein said clip further comprises a plurality of serrations on the padded tissue contacting surfaces of the jaws.

3. (Original) The clip of claim 1 wherein said force parallelism is maintained by a parallelogram hinge.

4. (Original) The apparatus of claim 1 wherein said force parallelism is maintained by a linear bearing.

5. (Original) The apparatus of claim 1 wherein said force parallelism is created by a soft pad of non-uniform thickness.

6. (Original) The apparatus of claim 1 wherein said force parallelism is created by a soft pad of uniform hardness.

7. (Original) The apparatus of claim 1 further comprising a damper to regulate the speed of closure of the jaws.

8. (Currently Amended) The apparatus of claim 1 wherein said jaws ~~project~~comprise projections along a major and minor axis and where said jaws project along said minor axis at least 25% of the along said major axis of the jaw.

9. (Currently Amended) A method of achieving visceral organ~~vessel~~ wound closure in a ~~vascularized vessel~~visceral organ of the body, said method comprising the steps:

accessing the site of the wounded visceral organ~~vessel~~,

applying one or more clips to the tissue surrounding the wound so that spillage of the visceral organ~~vessel~~ contents is substantially stopped but blood flowing through the wall of said wounded visceral organ~~vessel~~ is not stopped,

removing the clips from said wounded tissue at a later time.

10. (Original) The method of claim 9 wherein removal of said clip is accomplished by degradation or resorption of said clip.

11. (Currently Amended) The method of claim 9, wherein the application of said clip totally occludes the lumen of the wounded visceral organ~~vessel~~.

12. (Currently Amended) The method of claim 9 wherein the application of said clip partially occludes the lumen of the wounded visceral organ~~vessel~~.

13. (Currently Amended) The method of claim 9 wherein the application of said clip totally occludes and seals both ends of a completely severed visceral organ~~vessel~~.

14. (Original) The surgical clip of claim 1 further comprising a plurality of opening tabs wherein said opening tabs are angled outwardly from the axis of the jaws when the

jaws are in the open position and wherein said opening tabs are in line with the jaws when the jaws are in the closed position.

15. (Original) The surgical clip of claim 1 wherein said force parallelism is maintained by a mechanism with telescoping linear bearings.

16. (Original) The surgical clip of claim 1 wherein said clip is packaged in multiples so that each clip is maintained sterile and contamination free until ready for removal from the package.

17. (Original) The surgical clip of claim 1 wherein the spring has spring characteristics which limit the force applied to the vessel to the range of 2 to 50 mm Hg.

18. (Original) The surgical clip of claim 1 wherein said jaws are ring-shaped and comprise an opening in the central region.

19. (Currently Amended) A surgical clip adapted for clipping of viscera or blood vessels comprising:

a plurality of jaws,

a plurality of grasping tabs,

a hinge,

a mechanism to keep the jaws closed,

wherein said grasping tabs selectively fold inward against said jaws but may be folded outward to provide a grasping region to open said jaws.

20. (Original) The surgical clip of claim 19 wherein said jaws are ring-shaped and comprise an opening in the central region.

21. (Original) The surgical clip of claim 19 wherein the spring has spring characteristics which limit the force applied to the vessel to the range of 2 to 50 mm Hg.

22. (Currently Amended) A system for closing a wound in visceraa vessel having a lumen comprising:

a surgical clip comprising opposing jaws rotatably disposed about a hinge, wherein the jaws comprise large, padded tissue contacting surfaces having a generally

hollow open ring-shaped configuration, and further wherein the jaws substantially exert force parallelism when they contact a tissue;

a spring operably engaging the jaws to bias the jaws shut;

at least ~~one~~ opening tab secured to each jaw, wherein the opening tabs are disposed between the hinge and the distal extent of the jaw such that they do not extend proximally from the hinge; said opening tabs being operable to open and close the jaws; and

a grasping instrument comprising a pair of jaws adapted to engage the opening tabs and apply force to the opening tabs to open the surgical clip, said jaws having a hinge accommodating space adapted to receive the hinge, and bosses located on the jaws so as to engage the opening tabs when the hinge is disposed within the hinge accommodating space;

wherein the spring force of the spring is limited and pre-set so that the force applied by the clip to the viscera to prevent closure of blood vessels within the wall of the viscera while causing complete closure of the wall of the viscera being clipped against the loss of visceral contents.-

23. (Canceled)

24. (Original) The clip of claim 22 wherein said clip further comprises a plurality of serrations on the padded tissue contacting surfaces of the jaws.

25. (Original) The clip of claim 22 wherein said force parallelism is maintained by a parallelogram hinge.

26. (Original) The apparatus of claim 22 wherein said force parallelism is maintained by a linear bearing.

27. (Original) The apparatus of claim 22 wherein said force parallelism is created by a soft pad of non-uniform thickness.

28. (Original) The apparatus of claim 22 wherein said force parallelism is created by a soft pad of uniform hardness.

29. (Original) The apparatus of claim 22 further comprising a damper to regulate the speed of closure of the jaws.

30. (Original) The apparatus of claim 22 wherein said jaws comprise projections along a major and minor axis and where said jaws project along said minor axis at least 25% of the projection along said major axis of the jaw.

31. (Canceled)

32. (New) The surgical clip of claim 1 wherein at least one non-jaw component can be selectively folded inward to reduce their projection.

33. (New) The surgical clip of claim 19 wherein the jaws comprise a substantially oval shape.